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ABSTRACT

This is a simple how-to-do it manual intended to help projects that wish to produce print materials. It highlights the stages involved in producing print materials, giving an overview of the steps required and offering hints on different approaches to the various processes. The manual begins with the comprehensive layout (dummy) stage and proceeds through proofreading, typesetting and/or typewriting, mechanicals (pasteup), selection of paper and ink, printing, and finishing and binding. The processes of writing and editing the text, preparing illustrations, obtaining copyright, pricing, and distributing the final product are not included. Less expensive and more expensive procedures are noted along the way. Charts detail the functions involved at each stage, key deadlines, major printing processes, folding styles, finishing operations, and binding styles. (Author/JEC)

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National Diffusion Network
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Guide to Producing PRINT MATERIALS

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- Folding Styles
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I

WHAT THIS MANUAL IS AND IS NOT

- Overview
- Suggested Reading

Overview

This is a simple how-to-do-it manual intended to help projects that wish to produce print materials. It highlights the stages involved in producing print materials, giving an overview of the steps required and offering hints on different approaches to the various processes. It is not a detailed technical treatise, but rather a set of suggestions enabling you to decide what you can do yourself and what you may want or need to seek the help of a professional graphic artist, typesetter, and/or printer to accomplish.

The manual begins with the comprehensive layout (dummy) stage and proceeds through proofreading, typesetting and/or typewriting, mechanicals (paste-up), selection of paper and ink, printing, and finishing and binding. The processes of writing and editing the text, preparing illustrations, obtaining copyright, pricing, and distributing the final product are not included.

The stages and procedures described in each section are not necessarily discrete. Most overlap and all are interrelated. Virtually every step in the production process derives from decisions made at the dummy stage.

Less expensive and more expensive procedures are noted along the way. The choice of procedures will depend on the effect you want to produce, your budget, and your final deadline. Perhaps the most important consideration of all is adequate quantity: the most beautifully produced brochure in the world is useless if there is only a display copy left on the shelf.

Suggested Reading

John J. Ford III, et al., A Guide to Developing Educational Products. Andover, Massachusetts. The NETWORK, Inc., 1978. A systematic how-to manual that identifies steps and critical decision points in the process of producing instructional products.

Lillian White-Stevens, Guidelines for Writing and Printing Manuals: A Resource Manual for Project Directors and Staff. Hopewell, New Jersey: White-Stevens, Hopewell-Woodsville Road, Hopewell, New Jersey, 98525, 1979. Covers dissemination materials needed, planning a manual, general organization, printing and binding, publishing, the new copyright law, and other topics related to publishing for educational dissemination.

II

COMPREHENSIVE LAYOUT: THE DUMMY

- The Dummy: Its Function
  materials needed
- The Dummy: Its Contents
  all design elements
  heads
  illustrations
  margins and white space
- Suggested Reading

The Dummy: Its Function

The dummy, also known as the comprehensive or comp, is a hand drawn representation of the final printed product, i.e., a design. Its function is to provide the client (in this case you, the project staff) with an approximate image of the printed publication; to assure everyone concerned that all copy will fit into the design, that all elements are visually pleasing, and that the design complements the message; and finally to provide a basis for estimating print costs.

Usually the dummy is prepared by a graphic artist or designer. However, a project staff member can learn to perform this task; if so, you may be able to save the project considerable cost.

materials needed — A variety of resources can be used to produce the dummy: pencil and pastel, felt tip pens and markers, transfer letters, shading sheets, pressure-sensitive graphic art tape, colored paper, and colored acetate sheets. The dummy is prepared on a layout pad or on the actual paper stock to be used. It should neatly and accurately project what the final printed product will look like.

The Dummy: Its Contents

all design elements — The dummy layout contains schematic representations of all elements involved in the design, including finished format and size, location of copy and illustrations, representation of heads, margins, and white space.

heads — Body copy is usually indicated by parallel lines in the space that will be occupied by the typewritten or typeset copy. Headlines, subheadlines, and picture captions are sketched in the sizes and weights (light or heavy type) in which they are to appear in the final product.

illustrations* The location of any illustrations (drawings, photographs, charts, or other graphics) is indicated by a few simple lines or strokes, since many dummies are made before the actual drawings or photographs are available. This layout can then be used as a guide by the artist or photographer, since it shows the size and location of finished illustrations.

margins and white space Finally, the dummy layout reflects the relative position and proportions of margins and white space. When correctly applied, white space prevents monotony, directs attention, contrasts or emphasizes elements, and stimulates optical rhythm. A good layout is never crowded, but contains adequate breathing space.

SUGGESTED READING

F. H. Wills, Complete Introduction to Fundamentals of Layout for Newspaper and Magazine Advertising, for Page Design of Publications and for Brochures; translated from the German by Kenneth T. Dutfield. New York: Dover Publications, Inc., 1971. Full of good advice, this unique volume is devoted to layout design for newspaper and magazine advertising, page design for publications and brochures, and design of posters and labels.

James Craig, Production for the Graphic Designer. New York: Watson-Guptill Publications, 1974. Packed with illustrations and charts and containing an extensive glossary, this volume fully explains the production of printed matter; one of the best of its kind.

Allen Hurlburt, Publication Design: A Guide to Page Layout, Typography, Format, and Style; revised edition. New York: Van Nostrand Reinhold Company, 1971. Although this guide to page layout, typography, format, and style emphasizes mass-circulation magazines, its principles apply to all periodical publishing, regardless of publication purpose, budget, or scale.

*Illustrations are a topic unto themselves and are not treated here. Much thought must be given as to how many and what kind -- photos or drawings -- are needed to properly convey your message, what the best source of illustrations is, and how your photos or drawings should be presented and cropped to highlight the text.

III

PROOFREADING

- What It Is
- How Best To Do It
  - two readers
  - corrections in margin
  - originals
  - galley proofs
- Key Checkpoints
  - style and common errors
  - galleys and corrected galleys
  - mechanicals
  - printer's proofs

What It Is

Effective proofreading is an important task. It takes time, painstaking attention, and patience. Proofreading is not only a necessity, but failure to allow sufficient time to perform it well can result in embarrassing errors and costly mistakes. The consequences of a misspelled name or an inaccurate detail or number are easily imagined if the name is the author's, the detail the site of an annual advisory board meeting, or the number a population served by a specially funded program.

Every step of the production process which alters the form of the original typed copy requires proofreading: the typewritten final draft of text copy, the galley proofs, the corrected galleys, the mechanicals, and the brown lines or blue lines (printer's proofs -- the test edition pulled before actual printing).

How Best To Do It

two readers The best way to proofread copy at every stage in the process requires two people. One reads aloud, noting all marks of punctuation, while the other follows the typewritten or typeset text.

corrections in margins In the case of typewritten copy, corrections should be noted in the margins of a photocopy of the materials being proofread. This procedure keeps the original clean; a clean original is easier to correct.

originals In certain instances it may be preferable to note corrections directly on the original, using a nonreproducible, also known as nonphoto, blue pencil. One should nonetheless be wary: nonreproducible blue pencils have been known to reproduce, so a light hand is advised.

galley proofs With galleys, however, it is best to mark corrections directly on the proofs -- again in the margin.

style and common errors — In the early stages of proofreading, pay special attention to style. Style should be clear and above all consistent. Typographical errors are relatively easy to spot. It requires somewhat more care to catch misspelled words, poor grammar, and incorrect punctuation and capitalization. It requires even more attention to observe inconsistency in the use of abbreviations, acronyms, titles, and so on. Unlikely as it may seem, the hardest errors to spot are errors of fact. Divisions within words at the ends of lines of typewritten or typeset copy require much attention, too. You should choose a touchstone dictionary and stick to it. The University of Chicago Manual of Style prefers Webster's Seventh Collegiate.

galleys and corrected galleys — If copy is typeset, the galley proofs (long sheets of typeset copy on which corrections can be made, also called galleys) must be proofread and the corrected galleys must be approved. The corrected galleys should be read as carefully as the first proofs: mistakes can occur while mistakes that you have caught are being corrected. Once this stage is reached, though, revision should be limited to typesetter errors. To add new copy or delete extensively from existing copy can raise costs disproportionately: the typesetter must correct the mistakes s/he makes at her/his own expense, but other changes are charged to the client as author costs.

mechanicals — If a paste-up or art mechanical is involved, it, too, must be examined with care before it is sent to the printer. See that lines are straight, headings are accurately placed, margins are true, pictures and other graphics are properly captioned and cropped, narrative copy is correctly sequenced, and that there is sufficient white space.

printer's proofs — The final checkpoint before the print product goes to press is known as the brown lines or blue lines -- an exact replica of what will appear on the printed document, pulled in brown or blue ink. Whether a print product is typewritten or typeset and whether it has illustrations and graphics or not, this first copy is pulled before printing. Particularly for small print jobs you may have to ask to see the brown lines, but you are justified in insisting. At this point you are not proofing type, but checking for misplaced and crooked pages, marks and smudges, damaged and irregularly inked characters, incorrectly placed photographs. Take one final look at the front and back cover pages, inside and out, to check for proper alignment and correct content. Plan your production schedule so that adequate time remains for this step: even the best printers can make mistakes. Although this final proofing can add another day or two to your schedule, it is well worth it.

IV

SETTING FINAL COPY

- Typewritten Copy
  - electric typewriter
  - advantages
  - disadvantages
- Typeset Copy
  - advantages
  - time
  - disadvantages
- Typewritten Copy & Typeset Copy
  - typewritten body copy
  - typeset heads
  - disadvantages
- Typewriter Type Elements
  - italic, script, oversized
- Typeface Design and Size
  - typefaces
  - type size

There are three options for readying final copy for the printer's camera. Final copy may be typewritten, it may be typeset, or a combination of these two methods may be used. In the latter instance, body copy is prepared for the printer's camera on a typewriter, while headings, subheadings, charts, and other graphics are typeset.

Typewritten Copy

electric typewriter — An electric typewriter provides adequate uniformity for final copy. A plastic ribbon produces high quality originals. The size of the typewriter type can be altered by reduction. Typewritten copy can be photomechanically reduced by as much as 20% and retain its legibility. Photomechanically reduced copy requires less space, or to put it another way, more copy can be contained in a given space.

advantages — Typewritten copy costs less to produce than typeset text. Because copy can be set in the project workspace where many of the other steps are performed, corrections are more readily made, the paste-up stage required by typeset copy is eliminated, and overall production time is reduced. For these reasons, you would be well advised to use typewritten copy for publications requiring frequent revision or updating. And if the typist is good, this is also the cheapest method.

disadvantages — Disadvantages include the relative bulk of documents prepared from typewritten copy (bulk means increased printing, packaging, and mailing costs), the limited selection of typewriter typefaces, and the

impossibility of justifying (aligning) right-hand margins, except on some special makes of typewriters.

Typeset Copy

advantages — Typesetting provides the widest range of type styles. Right-hand margins can be justified (aligned). The advantages of print materials prepared from typeset copy include the professional look of the finished product, enhanced readibility, higher reproduction quality, and maximum use of available space.

time — When planning schedules, remember that extra time is required for typesetting. Copy for a simple brochure can probably be done in two days or less, but 20 to 30 pages may take a week. Of course, if the typesetter is a "friend," s/he may be able to speed things up. Consult colleagues for recommendations, or the Yellow Pages if all else fails.

disadvantages — Disadvantages include the increased cost and the extra time required. Copy must be transported to the typesetting facility, galleys must be fetched and proofed and corrections indicated, corrected galleys must be transported back to the typesetter, and corrections must be checked. These additional steps and the lengthened turnaround time may make it difficult to meet deadlines.

Typewritten Copy & Typeset Copy

typewritten body copy
typeset heads — These two methods can be combined in producing a single print product: text copy can be prepared for publication with a typewriter, while copy to be highlighted (e.g., title page, graphs and graphics, and headings) can be typeset. Care should be taken that the typewriter type style resembles or blends well with the typesetter's typeface. It should also be kept in mind that if the typewritten copy is to be reduced, the typeface selected must be of compatible size.

disadvantages — Pasting in the typeset heads requires some layout time.

Typewriter Type Elements

italic, script, oversized — Many electric typewriters in widespread use today accommodate a variety of interchangeable type elements. Italic, script, and oversized faces, as well as the standard pica and elite, expand the options within this mode of production. Interchangeable elements make it possible to present different parts of the text in different faces, and to highlight headings and other special features at low cost.

Typeface Design and Size

A project staff member acting as designer/graphic artist may want to consult a printer or typographer for advice both on type sizes and typefaces. Sometimes such decisions are a matter of aesthetic preference; you must be the final judge.

typefaces — There are hundreds of widely available typefaces, and thousands of hand- and photo-lettered variations. Typesetters, graphic artists, and printers have reference books, catalogs, or specimen sheets illustrating the many possibilities. While certain typefaces know the winds of fashion, other faces stand the test of time. "Optima" and "Helvetica Medium" are standard in educational publishing.

type size — Type comes in numerous sizes, which are distinguished in terms of points. Seventy-two points equal one inch. Type 14 points and smaller is known as text type; type larger than 14 points is known as display type. Generally speaking, copy type in educational publications is 10 point, secondary headings are 14 to 18 point, and major headings range between 24 and 30 point.

V

THE MECHANICALS

- General Procedures
  - personnel
  - materials
  - time
  - follow-up

In preparing the mechanicals, also referred to as the art mechanicals and as the paste-up, a layout person positions and pastes the various elements required by the design as outlined on the dummy to a piece of artboard. If the copy itself is typewritten, the mechanical is needed only for covers, special divider pages, and pages containing artwork or photographs. All typeset copy and artwork must be pasted up.

After the layout person completes the paste-up, the printer makes a printing master from the mechanical, which acts as a camera-ready unit. For pages of text containing no artwork, the printer can make masters directly from the typewritten or typeset pages.

General Procedures

personnel — The paste-up may be completed by a graphic artist, but in the interests of limiting costs, a staff person may learn to perform the operation. If the amount of work involved is small, the paste-up can very likely be accomplished by project personnel.

There are other advantages to doing the paste-up internally: errors are more quickly spotted and corrected, and the project has more control over the time factor.

materials — Gather together the completed illustrations, charts and other graphics, and the corrected typewritten and/or typeset copy. These materials will be used by the layout person to carry out the comprehensive design developed earlier.

time — The length of time needed to complete the art mechanical is related to the size and complexity of the job. A simple brochure may take just a few hours, 20 pages including both copy and illustrations may take two or three days, while a hundred page book may require as many as five days or more. If you use a layout person, remember that s/he probably has other jobs underway simultaneously with yours.

follow-up — It is important to tell the printer that all mechanicals should be returned to the project. All masters and artwork should then be wrapped, marked, and stored flat in a safe place where they can be easily located again. If reprinting is in order, they will be there when needed.

VI

SELECTING PAPER, INK AND COLOR

- Selecting Paper
  - bond
  - colored
  - graduated size
  - weight
  - size

- Selecting Ink and Color
  - black
  - dark shade
  - contrasting paper and ink
  - two colors of ink
  - black and colored ink
  - special effects

A printer has charts showing the different inks and paper colors, weights and sizes that s/he uses. These charts permit the potential effect of a given combination to be judged. They also allow cost comparisons to be made.

Selecting Paper

There are many weights and qualities of paper. You might want to inquire of the printer what stock he has on hand. He might give you a good price for paper left over from a previous job that he is anxious to use up.

bound — If the material being published is a classroom curriculum guide, a workbook, an activities manual, or some other consumable resource, an inexpensive paper, referred to as 20 pound bond, and equivalent to 50 pound offset book, is best. Two more costly options are higher grade book paper and text paper. Generally speaking, coated papers -- which have surfaces ranging from eggshell (matte) to glossy -- are most expensive; for this reason they are usually reserved for posters, brochures, and covers.

colored — Colored papers cost more than uncolored papers of the same fiber and weight, but the expense is at least partially offset by their attention-getting effect and by the variety they provide. Interleaving colored stock with white increases the cost still more, as does use of two or more colored papers.

graduated size — The expense is also increased if graduated paper sizes are used -- that is, if pages of different size are used to emphasize the individual sections of a book or booklet.

weight — The weight of the paper you select will also have a bearing on your total costs, over and above printing costs alone: the heavier the paper and the greater its opacity, the heavier the book and the higher your mailing costs. A good compromise between preferences and budget must be made.

size — The page dimensions of the finished product (trim size) are normally determined when the dummy is being prepared. A size that is compatible with standard size paper limits costs. Non-standard size paper reduces the number of pages available from the single sheet, wastes paper, and increases the cost. The four basic standard sizes, in inches, are 8 1/2 x 11, 11 x 17, 17 x 22, and 23 x 35.

Selecting Ink and Color

Decisions regarding color should be made well in advance of printing. Color sample books, called swatchbooks, available from manufacturers of color-matching systems, are helpful in choosing the appropriate colors. Two such color guides are the "Coloron," available from art supply houses, and the "Pantone Matching System," available from printers.

black — Black ink is always cheapest, since it is the color most commonly used; this can often save the cost of an extra press wash-up or cleaning. Each color added to the same print product increases the cost, since the item must pass through the press every time that an additional color is applied. The use of more than one color ink can also add complications in producing close register (close alignment of two different colors so there is no break).

dark shade — The ink or inks selected must always be sufficiently dark to allow the text to be read and/or photocopies made from it to reproduce well.

contrasting paper and ink — If the designer wishes to use colored ink and colored paper, the two colors must be compared to ensure that there is adequate contrast -- an absolute must if the print is to be legible. It is generally wise to avoid unusual color combinations, especially when photographs are included in the design. Bright red is very hard to read if there is a lot of text. If the overall design and the type used to compose text and headings are simple, a single colored ink on colored stock is often enough to create the impact and polish that your message needs.

two colors of ink — Printing in two colors increases the visual possibilities. It also increases the cost. It should be emphasized that printing two colors on the same side of a sheet doubles the number of negatives and plates required, doubles the on-press time needed, and doubles the number of steps in the washing and drying process.

black and colored ink — One of the most common combinations is black ink with a second color. This allows illustrations and text type to be printed in black, while the second color is reserved for headlining certain information or for emphasizing the general design of the print product. A wide range of effects can be achieved by varying the tonal value of the second color in combination with the black.

special effects — A wide variety of effects can be achieved with a single color if such special printing techniques as screening, surprinting, and reversed printing are used, but special printing techniques can increase costs.

VII

PRINTING

- Printing Processes
  - processes
  - photocopy
  - time
- Selecting a Printer
- Working with the Printer
  - estimates
  - specifications
  - run sizes
  - number of pages
  - five pages
- Suggested Reading

Printing Processes

There are a number of printing processes in widespread use. The choice of a particular process will influence the decisions a designer makes about type, illustrations, and paper stock. The printing process will also dictate the manner in which the illustrations are prepared. And, of course, an estimate of the expense involved by a particular process is crucial to budget planning.

processes — Three printing processes are used on a commercial scale today: offset lithography, letterpress, and gravure. Each of these processes can transfer an image from one surface (the printing plate) to another (the paper) through the medium of ink. Each process uses photographic plates that produce a negative film image of the material to be reproduced in print. For a variety of reasons, letterpress and gravure are more expensive than offset lithography.

The chart "Major Printing Processes," page 20, outlines advantages and disadvantages of these three printing processes. It should be evident from this chart that some form of offset printing is best advised for users of this manual.

photocopy — Depending on the needs and budget of the project, office-machine photocopying of camera-ready copy may be an acceptable alternative, especially if the quantity needed is not large. Some printers now photocopy camera-ready copy onto colored paper stock available in a variety of weights; these printers can also reproduce camera-ready copy on the client's letterhead or other paper supply. Other printing techniques -- silkscreen and stencil, for example, -- can be used in special cases.

time — The size of the job determines how long printing will take. A brochure will require a few days, a book several weeks. If you're a good client, you may be able to convince the printer to speed your job through. Printers will sometimes rush a job through for an extra fee.

Selecting a Printer

Any graphic artist or designer you employ will know a number of printers. If you're on your own, the Yellow Pages is the best source of names. On your first visit to a printer, ask to see samples of jobs he has done. Ask for names of past clients, too. Talk to past clients to determine the printer's willingness to meet deadlines and the general quality of his finished products; you may hear about problems encountered along the way. After you've prepared your specifications, get estimates from two or more printers so that you can compare prices and time allowances when making your selection.

Working With the Printer

estimates — Unless the project has printing facilities of its own, it is advisable to seek bids (estimates of projected printing costs) from two or more printers.

specifications — The best way to obtain an estimate of printing costs is in writing, using a request form submitted directly to the printer. The information that you will need is outlined below. The specifications, as your instructions to the printer are called, will later form the basis of a written agreement between printer and client. Reputable printers will provide not only an estimate for a given job, but also a range of cost options varying with the paper and ink used. Be sure that each printer from whom you seek an estimate bids on exactly the same specifications.

run sizes — It is also helpful to have the printer provide prices for a variety of print runs, or quantities printed. One can sometimes obtain thousands of additional pieces for a few dollars more. If no changes are planned, an overrun of the first printing is usually cheaper than a rerun at some later date. Try, however, to limit the various quantities for which you seek prices to a reasonable number. Quotes are usually given in multiples of 500.

number of pages — One final consideration involves the number of pages contained in the finished document. Printing in signatures, or multiples of eight pages (four on one side of the printed sheet, four on the other), limits costs. Sheets are folded as one unit to form a section of a book. Note that a 29-page booklet requires four signatures, but that four signatures contain 32 pages, so three pages are blank -- added cost for no benefit.

five steps — Working with the printer involves several steps:

FIRST — Prepare printing specifications in writing, taking care to specify
- -- ink color or colors
- -- paper color, weight, and texture for as many different components as your design includes (text, cover, divider pages)
- -- trim size (linear dimensions of the finished document)
- -- total number of impressions, including front and back covers

-- run size (number of copies to be printed)
-- whether the art attached is camera-ready or whether preliminary work is needed
-- special effects (e.g., reduction of certain materials, screening, reverse printing)
-- printing process (in cases where there is a choice)
-- folding required
-- binding process
-- delivery dates for proofs and finished product
-- whether negatives are to be returned to client

SECOND — Obtain and review the proofs, known as brown lines or blue lines. Check every item included in your design to be sure that it is positioned correctly before the actual presswork begins.

THIRD — Indicate the corrections required.

FOURTH — Check corrections if they are extensive.

FIFTH — Hope that there is not a paper strike or a press breakdown and that the finished product will be accurate and completed on time.

Suggested Reading

Clifford Burke, Printing It! Berkeley, California: Wingbow Press, 1974. Subtitled A Guide to Graphic Techniques for the Impecunious, this guide is written for the novice printer, but it contains solid help in producing anything from a poster to a complete book using the offset method of printing.

Daniel Melcher and Nancy Larrick, Printing and Promotion Handbook: How to Plan, Produce, and Use Printing, Advertising, and Direct Mail; third edition. New York: McGraw-Hill Book Company, 1966. How to plan, produce, and utilize printing, advertising, and direct mail.

VIII

FINISHING AND BINDING

- Trimming and Folding
  - trimming
  - folding
- Finishing Operations
  - finishing considerations
- Binding Styles
  - staple or fold
  - prepunched, sleeve wrap, shrink wrap, rubber band
  - other bindings

Trimming and Folding

Trim size is the size of the page when the entire production process is completed. If paper sizes other than the basic standard sizes are used, the paper must be trimmed to produce the specified trim size.

trimming Trimming requires cutting machinery and is performed by the printer. Printers have charts showing the recommended trimmed page size and the number of pages available per sheet when standard size sheets are used.

folding Folding is usually done mechanically, by a high-speed machine capable of making single or multiple folds -- one or several folds in one or two directions. The creative decisions on how the printed sheets will be folded to present the printed information -- for brochures and folders, for example -- are made at the layout stage of production. But there must be a limit to creativity, for what the machine can do is not unlimited! A variety of folding styles is shown in the chart on page 21.

Finishing Operations

Finishing and binding charges are lower if standard size paper is used.

finishing considerations There are many ways of finishing a print product. Some of them are performed by the printer during actual on-press operations. Others are accomplished by binders in off-press operations. Matters to consider with the printer and/or the binder include:

- -- collating
- -- die-cutting
- -- drilling
- -- embossing
- -- engraving
- -- laminating
- -- perforating
- -- punching
- -- scoring
- -- stamping
- -- tabbing
- -- varnishing

These processes are explained in the chart on page 22.

Binding Styles

staple or fold When preparing many print materials it is not necessary to consider binding procedures, because the printed sheet can simply be folded to produce the product desired. If the weight of the paper and the number of pages permit, a neat fold or a couple of staples provides a satisfactory solution for a simple booklet or brochure.

prepunched, sleeve wrap, shrink wrap, rubber band If it is decided that a print product will not be bound but inserted into looseleaf binders, the printed sheets should be prepunched. Units may also be packaged in a sleeve wrap (which encircles but does not permanently bind), in a shrink wrap (in which clear plastic is heat-treated to seal in completely the item it covers), or in a simple rubber band. Such methods are far less costly than the more formal solutions.

other bindings As a print product adds pages, it becomes thicker and heavier, and other binding styles must be considered. A number of binding styles are explained in the chart on page 22. Possibilities include:

- -- gluing
- -- saddle stitching
- -- side stitching
- -- plastic binding
- -- spiral binding
- -- perfect binding
- -- grommet
- -- stapling
- -- velo binding

Costs vary widely. Saddle stitching and perfect binding are less expensive yet quite satisfactory. Velo, plastic, and spiral binding are more costly and time consuming, but they may be appropriate for particular print products.

IX

CHARTS

- Functions Involved at Each Stage
- Key Deadlines
- Major Printing Processes
- Folding Styles
- Finishing Operations
- Binding Styles

Functions Involved at Each Stage

		Writing	Editing	Typing	Proofreading	Design	Typing/ Typsetting	Printing	Binding	Mailing
Text Preparation	- Planning	*				X		*	*	
	- Preliminary Text	X	X	X		*				
	- Rough Layout	*				X	*	*	*	
	- Illustrations	*				X				
	- Final Text	X	X	X	X	*				
• Production (this manual)	- COMPREHENSIVE LAYOUT					X		*	*	
	- SETTING COPY				X	X	X	*		
	- MECHANICAL					X		*	*	
	- PRINTING				X	*		X		
	- FINISHING AND BINDING					*		X	X	
Distribution	- Distribution									*

*Person(s) involved may be consulted during this stage for suggestions.

Key Deadlines

Make a calendar chart of who's doing what, then post it so that each task can be checked off when completed. This enables every staff member to know at a glance if there are problems in meeting the following deadlines:

Date Due	Task	Person Assigned	Date Completed
	OUTLINES or PRELIMINARY TEXT (the first draft)		
	FINAL TEXT (the final copy)		
	EDITING (for all phases of writing)		
	ASSIGNMENT for illustrations (photographs, artwork, and graphics)		
	ROUGH LAYOUT (the dummy)		
	TYPESETTING (including the proofreading)		
	FINAL LAYOUT (when copy is camera-ready)		
	PRESS (when camera-ready copy goes to the printer)		
	APPEARANCE (when distribution can start)		

All of these deadlines should be discussed at the first planning meeting. Schedule other check-up points as needed.

Major Printing Processes

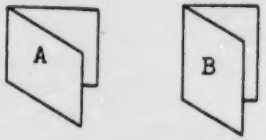
Advantages	Disadvantages
OFFSET LITHOGRAPHY	
• Relatively inexpensive. • Less time to make plates. • Produces halftones* easily. • Prints on wide variety of surfaces.	• Requires more attention to maintain consistent image throughout run. • Corrections require making new plate.
LETTERPRESS	
• Consistent quality throughout run. • Accepts papers of any thickness. • Proofing is relatively inexpensive.	• Plates more expensive than offset. • Special process required for printing halftones.
GRAVURE	
• Produces richest blacks and widest tonal range of all printing processes. • Prints on wide variety of surfaces. • Consistent quality throughout run.	• Plates more expensive than offset or letterpress. • Corrections are more expensive.

*Halftones are photomechanical reproductions of continuous tone originals (photographs and artwork). A printing press prints gray only if gray ink is used. The illusion of intermediate tones is produced by photographing the continuous tone original through a fine screen consisting of dots or lines.

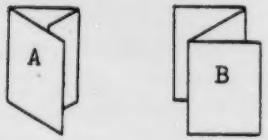
Folding Styles

Before designing a folder, check with the printer and/or the binder to learn which sheet can best be accommodated by his press and which folder can be produced most economically by his machinery.

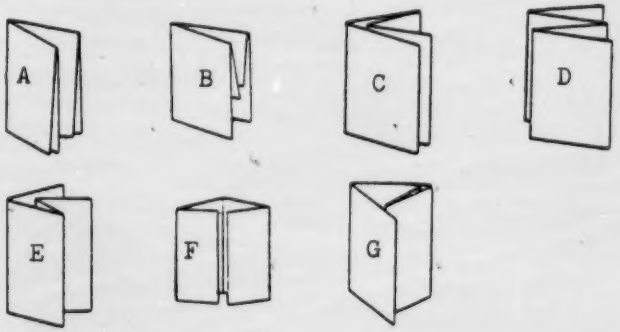
FOUR PAGE. The simplest folding possible: one fold, producing four pages. The sheet can be folded on the short side (A) or the long side (B).



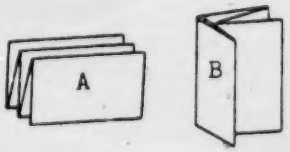
SIX PAGE. Two parallel folds -- regular (A) or accordion (B) -- producing six pages.



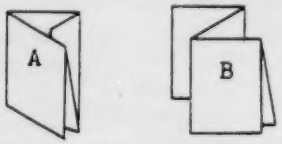
EIGHT PAGE. Commonly called the French fold, when the sheet is printed on one side only, folded once in one direction, rotated 90 degrees, and folded again at right angles to the first fold (A); an option on this fold is (B), the short fold. An eight-page folder can be produced by making two parallel folds (C) or three parallel accordion folds (D), also called the Japanese fold. These are suitable if you wish to print on both sides of the sheet and to have a product that is easy to open. Other options are (E); the double-gate fold (F); and the modified gate (G).



TEN PAGE. Four parallel accordion folds (A) or four regular parallel folds (B).



TWELVE PAGE. If the first fold is followed by two right-angle folds -- either regular (A) or parallel (B) -- a 12-page folder is produced.



Finishing Operations

collating	Signatures, or printed sheets, are arranged in proper sequence so that pages will be in the correct order for sewing and binding.
die-cutting	The printed sheet is cut with steel dies (resembling cookie cutters) to remove a portion of the sheet or to enable a portion of the sheet to be folded away from the remainder.
drilling	Holes are drilled into sheets so that they can be bound in looseleaf folders or spiral bindings.
embossing	A pair of dies and a heavy duty press are used to produce a raised image (pattern or letters) on an otherwise flat surface. In debossing, the reverse process, the image is impressed into the paper.
engraving	A printing process in which the image (pattern or letters) is cut or etched into the surface of a metal plate for special printing.
laminating	A thin plastic film is applied to a printed sheet for protection and/or appearance. Laminating plastic is polyester or acetate, applied in liquid form or as sheets.
perforating	A row of small holes is punched in a printed sheet so that part of the sheet may easily be torn away (like postage stamps). Requires a die or perforating machine.
punching	Holes are punched into sheets so that they can be bound in looseleaf folders or spiral bindings. Slot punching produces rectangular holes.
scoring	A crease is pressed into heavy paper stock to facilitate an even and accurate fold. Usually done on-press with round metal blades or wheels.
stamping	An image (pattern or letters) is impressed onto paper with heat, pressure, and metal foil to create a shiny raised image. Blind stamping omits ink and metal foil.
tabbing	A bindery operation in which tabs (resembling those on file folders) are cut into or affixed to the edge of a sheet of paper. Tabbing may be staggered from one sheet to the next like steps.
varnishing	Protective varnish is added to the printed sheet on-press with ink rollers or off-press with spray guns or blade coaters. Spot varnishing covers selected portions of the printed sheet with press varnish.

Binding Styles

Type	Description	Advantages/Disadvantages
glue	Glue or padding cement, and a piece of cheese-cloth or gauze to add durability.	An inexpensive way to bind thin books or booklets at top or side edge. Sheets so bound are easy to remove, so this method is not recommended for publications that see repeated use.
saddle stitching	Wires inserted through the backbone into the center spread. A self-cover or a separate cover heavier than text sheets can be used.	The most common method of pamphlet or booklet binding, it is simple and inexpensive. It allows pages to open fully and lie flat for easy reading, but it is useful only for thin publications -- booklets, catalogs, bulletins, and the like.
side stitching	Wires inserted from front page to back page (1/4" from the edge). Covers of heavy stock are affixed with glue and trimmed.	Used for thicker publications -- books, magazines, manuals, and the like. Wires prevent the pages from opening flat. Wide inside margins are necessary to compensate for the extra space required by the wires.
plastic binding	Pages and cover are trimmed, slotted or round holes drilled or punched, and plastic coils inserted into the holes.	Ideal for textbooks, manuals, and the like. Pages lie flat when open. Plastic coils come in attractive colors. Drilling or punching the requisite holes is an added expense. Books so bound do not stack or pack well.

spiral binding	Pages and cover are trimmed, holes are drilled or punched, and metal coils with single, double, or multiple rings are inserted into the holes.	Ideal for textbooks, manuals and the like. Pages open easily, lie flat. Stronger than plastic binding; books bound by this method hold up well under constant use. Drilling or punching the requisite holes is an added expense. Spiral coil is inserted by hand or machine; in either case cost and time required increases.
perfect binding	Pages are held together and affixed to the cover with adhesive strengthened by gauze glued over the spine. The cover -- hard or soft -- is pasted to the spine after the pages are trimmed.	Widely used for paperback books, manuals, and the like. Relatively inexpensive, durable, and attractive. Requires a certain thickness for successful use; cannot be used with thin booklets.
grommet	A hole is punched or drilled at one end and a metal grommet or eyelet inserted.	Commonly used to bind sample books. Pages can be rotated for side-by-side comparisons.
staples	Pre-formed strips of thin wire staples are inserted by a machine operated by foot pedal.	Simple and fast, inexpensive and unattractive. Restricts full opening. Pages can be torn out.
velo binding	Plastic strips with molded fingers are inserted into prepunched holes; requires 1/4" margin.	Especially suited to documents that are to be kept intact. Very strong. Pages cannot be removed. More costly than spiral binding. Sheets will not lie flat when document is opened.